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## In this Issue

- About PM 13
- Report on PM12
- Best PM Product
- Anu Bodhan 12
- PM Short Course
- Company Profile ELH Powder Technology

## Editorial

This issue of the Newsletter focuses on the report of the International Conference & Exhibition, PM-12 & 38<sup>th</sup> ATM of PMAI held at Mumbai during Feb.2012. Selected papers from the event will be published in the Trans.PMAI, 2012. Some of the highlights of the events included are PMAI Fellow awards, cultural program, entertainment & Boat party dinner and the best award winning product. Other coverage include ANUBODHAN-12, at the National Institute of Technology, Warangal. Powder Metallurgy Short Course at I.I.T., Bombay during March 2012; information about the International Conference & Exhibition PM-13, at Pune during Feb.2013. Another PM Short Course will be held at Mahatma Gandhi Institute of Technology, Hyderabad during Dec. 2012. This News Letter is sponsored by ELH Machinery International China.

P. Ramakrishnan

## INTERNATIONAL CONFERENCE & EXHIBITION

On

**Powder Metallurgy For Automotive And Engineering Industries - Precision and Additive Manufacturing**

And

**39th Annual Technical Meeting of PMAI**

**Hotel Hyatt Regency Pune,  
Weikfield IT Park, Pune Nagar Road, Pune 411 014, India**



**Thursday, 7<sup>th</sup> to Saturday 9<sup>th</sup>  
February, 2013**

**Organized by:**

**Powder Metallurgy Association of India (PMAI)**

**www.pmai.in**

## TECHNICAL SESSIONS

The technical program is arranged into following areas to accommodate wide range of materials and technologies.

- New and Innovative Materials for Automotive & Engineering Industry from Metals, Ceramics and Composites.
- Innovative Powders, Feed stocks and Processes for Precision manufacturing.
- Progress in Modelling, Simulation, Analysis, Characterization and Testing.
- New developments in Powder Consolidation Techniques and Equipment for PM and Ceramic Industry.
- Novel concepts and applications for Automotive, PM and Ceramic Components.
- Powder Injection Moulding (Metal Injection Moulding and Ceramic Injection Moulding) - Developments in Powders, Feed-stocks, Equipment, Technologies, Components for Automotive and other Engineering Applications.
- New Innovations in Additive Manufacturing.
- Advanced PM through Ultra fine and Nano-materials.
- Progress in Automotive Industry such as electric, hybrid vehicles, eco-friendly automobiles, etc.

The 39<sup>th</sup> A T M of the PMAI will be held concurrently along with the International Conference PM13. This will provide an excellent opportunity to the Indian PM professionals to exchange information with their International counterparts. Contributory papers based on original research are invited to be presented in parallel technical sessions as well as in poster sessions.

Deadline for submission of abstract is **31<sup>st</sup> October, 2012.**

## EXHIBITION OF P/M RAW MATERIALS, EQUIPMENTS, PRODUCTS AND SERVICES

A Trade Exhibition will showcase the latest developments in PM technologies worldwide. The exhibits will include varieties of powders, products, manufacturing equipments, characterization, testing and quality control instruments and value added services.

## CONFERENCE GUIDE/ SOUVENIR

A Conference Guide cum Souvenir will be published giving PM-13 itinerary, details of the technical programs, cultural and dinner programs, abstracts of the papers that are presented in PM-13, as well as, PMAI's 39<sup>th</sup> Annual Technical Meeting, names of sponsors, co-sponsors, exhibitors, advertisements.

## AWARDS FOR THE BEST PAPERS

- The PMAI Award for a novel PM Solution to an industrial problem
- The Dr. G. S. Tendolkar Award for an original study on sintering.

Each of these carries a purse of Rs. 10,000/- and a certificate for authors.

For Detail Contact:

**Convener - PM-13**, 1002, B wing, Kingston, High Street, Hiranandani Complex, Near D-Mart, Powai, Mumbai 400 076  
Tel.:91-22-25704588 / E-mail: pmai\_pm@yahoo.com / Website: www.pmai.in

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## International Conference & Exhibition on New Vistas in Particulate Materials Technology (PM-12) & 38th ATM of PMAI-A Report

After the great success of PM-11 at Pune, the auto hub of India, PM-12 was held in Mumbai, the financial capital of India, at The Residence Hotel & Convention Centre, Powai, from 2-4 February, 2012.[1] This was also very well received with about 225 delegates participating from academic institutes, R&D institutions, PM industries and end users. The conference included a trade exhibition of PM and allied industries. This was inaugurated by Mr Antonio Casellas, Vice President - Global Operations, GKN Sinter Metals, Germany.[2] A total of 23 companies exhibited their goods and



The prestigious "Fellow of PMAI" (FPMAI) was given to Dr. S. Ashok, [3] Mr. Mohan Gore [4] and Mr. Bijoy Sarma [5] for their exemplary services to not only to Powder Metallurgy but also to the Powder Metallurgy Association of India.

There were 52 technical papers presented and 18 plenary presentations covering a variety of subjects about the New Vistas in Powder Metallurgy and Particulate Materials. There were also 6 presentations in a dedicated PIM session.

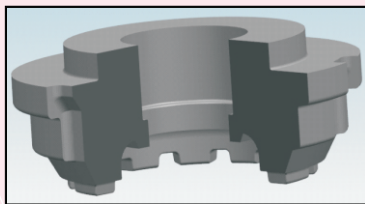
The event was sponsored by: BASF SE, Dorst Technologies GmbH, Fluidtherm Technology Pvt. Ltd., GKN Sinter Metals Ltd., Hoganas, Makin Metal Powders Ltd., Quebec Metal Powders Ltd (Rio Tinto), Nanjing East Precision Machinery Co. Ltd., Sintbush (India) Pvt. Ltd., SLM Metal Pvt. Ltd., SMS Meer GmbH, Speciality Sintered Pvt. Ltd., Star Sintered Pvt. Ltd., Swastik Tungsten Pvt. Ltd., and Timcal Graphite and Carbon. Co-sponsors included- Battelle Laboratories, Kandoi Metal Powder Mfg. Co. Pvt. Ltd., Newmet Pvt. Ltd. and P. P. Patel & Company.

Keeping with tradition, PM-12 had organized gala dinners, interactive entertainment programs with song & dance. Notable was the cruise theme party [6,7] on the high seas of Mumbai sponsored by Star Group of Industries. There was an Indian traditional Bharata Natyam dance recital [8] of Aishwarya Baburajan, Greeshma Menon, Hamsa Murli and Nidhisha Garg, students of Atomic Energy Central School No. 4 and disciples of Guru Srinivasan, Nerul, Navi Mumbai and of (ALKS) Anushakti Lalit Kala Sanstha.

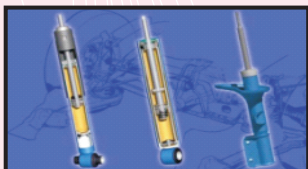
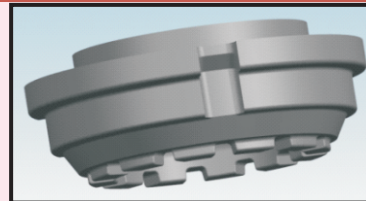
The conference generated a lot of technical discussions during the course. The exhibition was very successful with lot of non-delegate visitors from all over India with interest in expanding their business. New joint ventures, collaborations, capacity expansion etc. were also discussed on the sides of the technical sessions. PM-12 also provided a great opportunity for networking among all the participants. The conference concluding session was highlighted by the presence of Mr Greg Lavallee, Executive Director, QMP Powders, Rio Tinto, Canada. [9]



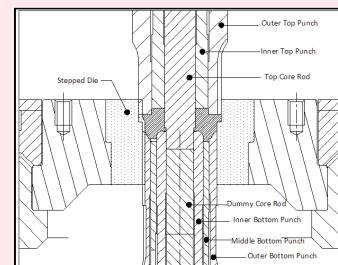
## PMAI Best Product Award 2012



The best product competition was held during The International Conference and Exhibition (PM-12) and there were three contestants, namely Pricol Limited, Speciality Sintered Products Pvt. Ltd. and GKN Sinter Metals Ltd. The Best Product Award 2012 was given to PISTON ROD GUIDE (Part # 42527), manufactured for EMM by GKN Sinter Metals Ltd. Congratulations! PMAI appreciates the efforts put in by the other two contestants.



- Part requiring tooling with three upper, three lower punches and stepped die.
- Collision tooling : Having dummy core rod, which is pushed down by Top core rod
- Stepped die and step in Top core rod restricts punch movement and there by powder transfer, making it challenging to achieve uniform density and part depths.
- Best in class tooling and GKN developed advance press (closed loop CNC press) made it possible to produce this part at a speed of 15 strokes/min



## ANU BODHAN' 12

National Institute of Technology, Warangal (NITW) in association with Department of Metallurgical and Materials Engineering, Metallurgical and Materials Engineering Association, Powder Metallurgy Association of India, Indian Institute of Metals (IIM)-Hyderabad Chapter, organized a 2-day, National level students' workshop ANU BODHAN'12 on the theme "Powder Metallurgical Processing of Materials" from 31<sup>st</sup> March-1<sup>st</sup> April, 2012. About 175 students, selected from various parts of the India participated in the workshop.

The workshop was inaugurated by the Director, NITW, Prof. T. Srinivasa Rao. The program included several lectures on Powder Metallurgical Processing of Materials by Prof. P. Ramakrishnan, Emeritus Professor, IIT Bombay, Mumbai, Dr. Murli Gopal Krishnamoorthy, Novoken Innovations, Mumbai, Dr. Tarashankar Mahata, BARC, Mumbai, Prof. B.S. Murty, IIT Madras, Chennai, Prof. Anish Upadhyaya, IIT Kanpur, Dr. Sankara Narayana, DMRL, Hyderabad.

The highlight of the workshop was the laboratory demonstrations of various PM techniques and products produced therefrom. There were a PM Quiz and poster competition (>70 posters), in which students participated with great interest. Apart from prizes, many students could get themselves internships and research opportunities by the supporting organizations.

This is one of the largest students' events so far in PM.



## Powder Metallurgy Short Course



The powder metallurgy short course which was to be conducted in 2011 was delayed due to organizational issues. Finally it was conducted successfully in IIT Bombay, Powai, Mumbai from 15<sup>th</sup> – 17<sup>th</sup> March 2012. Prof. Parag Bhargava was the Convener of the program. There were 18 participants from major industries, multinational companies and institutes from several parts of India. Prof. Rajiv Dussane, Head, Metallurgical Engineering & Materials Science, IIT Bombay, was the Chief Guest. There were 20 lectures covering the various aspects of powder metallurgy and

particulate materials technology. There were extensive laboratory sessions on powder characterization, compaction, sintering, electron microscopy, testing, Powder Injection Moulding etc. There was a plant visit to Sintbush (India) Pvt. Ltd., Palghar. Mr. P. N. S. Sivan, MD, Sintbush (India) Pvt. Ltd. explained the entire PM parts manufacturing- from raw materials, equipment, tooling, compaction, sintering, sizing, finishing, QA procedures etc. The delegates also visited Kelve beach, nearby, on the way back. The entire program was very lively and interactive and was very much appreciated by all. Certificates were issued to all participants by Mr. P. N. S. Sivan, President, PMAI.



China ELH Machinery International

## China Leading Powder Press Supplier

### EFM Series of Automatic Powder Compacting Press

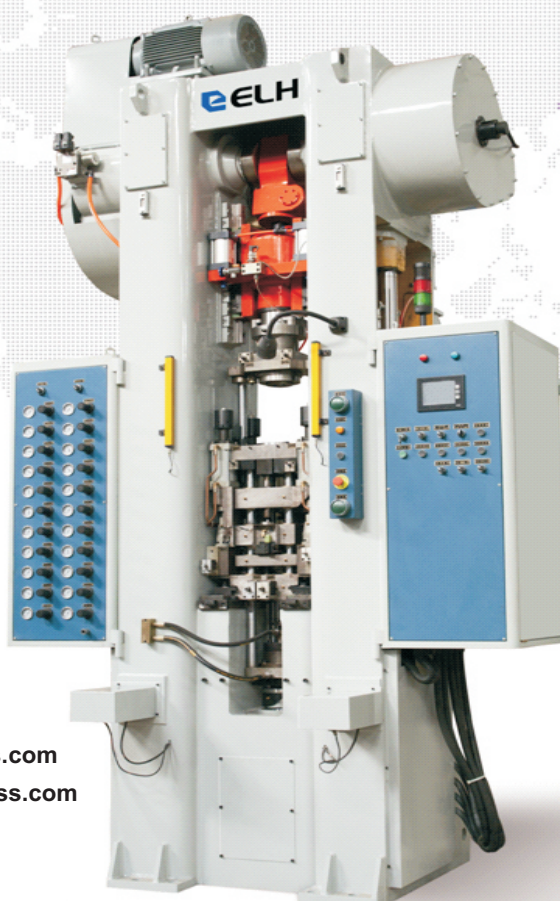
- Max. Pressing Force From 30kN to 5000kN
- Mechanical Type
- Hydraulic Type



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Established in 2005, China ELH Machinery International Co., Ltd is a specialized manufacturer of dry powder compacting presser ranging from 3 ton to 500 ton and sizing machines ranging from 15 ton to 260 ton. With fixed assets of USD6.25 million, ELH takes land area of more than 50,000 square meters and has construction area of more than 20,000 square meters. ELH has over 200 staff including 36 engineers and technicians.

Our machines have up-to-date technology and great competitive power in both domestic and overseas markets.

We understand client's situation and needs. This shortens our distance with our clients. ELH management idea is **seeking for ever greater perfection in quality and servicing from the bottom of our hearts**. Our presses are honored as **The Best Innovative Industry Product in Zhejiang province**.

ELH is also exploring overseas market vigorously. Until now our machines have been exported to Russia, Argentina and other countries and highly appraised. While we advance forward, we are always finding and narrowing the gap between us and German Japanese companies. With efforts of ELH staff, we are confident to compete in domestic and overseas markets. We warmly welcome the clients from all over the world to visit us.